DOCUMENT RESUME

EL 330 307 IR 014 922

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TITLE Resistance to Change in Education: Themes in the Literature.
PUB DATE 91
NOTE 15p.; Graduate student paper, Syracuse University.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adoption (Ideas); Communication (Thought Transfer); Decision Making; *Educational Change; Educational Innovation; Elementary Secondary Education; Literature Reviews; Program Implementation; *Psychological Studies; *Resistance to Change; Teacher Administrator Relationship

ABSTRACT

This review of literature in the field of educational innovations includes discussions on the following areas: (1) resistance to change; (2) personality and psychological factors; (3) innovation attributes such as communicability and compatibility; (4) type of innovation decision making including those made by individuals, groups, and authority; (5) problems during the implementation of innovative programs; (6) schools as organizational or social systems; (7) communications networks, particularly the relationship between teachers and administration; and (8) the faculty culture and the relationship between the innovation and the school. It is noted that this review, while omitting some influential factors in the discussion of resistance to change, reflects a range of themes that have emerged within the body of research concerning perceptions about and interpretations of resistance to change. (32 references) (DB)

Resistance to Change in Education: Themes in the Literature

Wendy Poole

Resistance to Change in Education: Themes in the Literature

For decades school reformers have been concerned about the failure of reform movements to effect significant change within the education system. Many formulas for reform have fallen well short of their intended goals. Why? In their efforts to find an answer to that question, many reformers and change agents have complained that failure is the fault of the individual within the education system - the teacher. Teachers, they argue, are resistant to change and foil attempts to invoke real change. Goodlad (1975) describes how educational changes during the Schooling Decade (1957 - 1967) were met with "intense criticism" and "frequently hostile reaction" (p. 34). Watson (1969) and Heferlin (1969) describe how educators protected their vested interests.

This tendency to blame teachers for their inertia has persisted. In a study of twelve efforts to improve schools in the United States, Huberman, et al (1984) indicate the need for administrators to get tough with teachers, to apply administrative pressure and to "guard against resistance". Eisner (1990) views teacher associations and unions as being part of the reason for the failure of school reform because of their tendency to "protect our turf" (p. 525). Dalin (1978) describes how research on the change process has defined resistance as "unwanted obstinacy to be overcome by social engineering methods and other 'interventions strategies' " (p. 23). According to this research tradition, the 'resister' is "the defender of the 'status quo' ", a concept that has a negative connotation (Dalin, 1978, p. 23). This negative view of resistance can be seen in Havelock's use of the term 'laggards' to describe those who are most resistant to change.

Other researchers point to faults within this analysis. First there has been an unwarranted "proinnovation bias" that assumes that innovations are always good and therefore should always be adopted (Rogers, 1975, p. 15). Ely (1976) elaborates, adding that:

> Rejection, in this context, is an undesirable or irrational decision. This attitude persists as a residue from the earliest diffusion research which was concerned about the adoption of hybrid corn by farmers. It is no longer adequate..... Neither stability nor change has any intrinsic value (p. 151).

It is no longer acceptable to view resistance as something necessarily bad that must be overcome. Zaltman and Duncan (1977) argue that "resistance is a positive force when, from some relatively objective standpoint, the advocated change is harmful to society" (p. 62) or when it may be used to "pressure the advocates of change to be more careful in introducing change" (p. 62).

Second, innovations do not always fail due to the resistance of potential adopters and users. Although it is common for change agents to blame their clients for resistance to innovation, sometimes innovations fail due to change agent error (Zaltman & Duncan, 1977; Fullan, 1982; Rogers, 1983).

Finally, early studies concerning implementation have focused almost exclusively on the individual, while ignoring "the basic problem of political forces and values in a social system" (Dalin, 1978, p. 24). Sieber (1972) describes how strategies for implementing innovations have been influenced by certain images of the practitioner as either Rational Man, who responds to intellectual stimuli and makes decisions based upon the best available information; or the Cooperator who responds

to approval or disapproval and whose motivation is to cooperate; or as the Powerless Functionary who has little power over his environment and responds to orders. Resistance has been seen as a problem that is inherent within teachers - a problem related to personality or to psychological factors. This argument, however, ignores the complexity of the change process. The individual does not present the only obstacle to innovation. In fact, several themes or factors are apparent upon closer examination of the literature related to innovation resistance. This paper seeks to describe some of the factors related to resistance that commonly appear in diffusion literature as well as one new area that is being explored.

Personality and Psychological Factors

There is evidence to support the claim that factors related to personality and psychological characteristics are related to whether or not innovations are adopted and continued. Rogers (1983) has found variables such as education; literacy; a commercial economic orientation; empathy; ability to deal with abstraction; rationality; intelligence; favorable attitudes toward change, science, credit, and education; cosmopoliteness; mass media exposure; active information seeking; and achievement motivation to be positively related to innovativeness. Rogers identifies dogmatism and fatalism as factors that have been negatively correlated with innovativeness. Bushnell (1971) believes faculty attitudes to be one of the barriers to innovation. Zaltman and Duncan (1977) also include inability to tolerate ambiguity, low propensity to assume risk, erroneous logic, and unsuccessful experience with the change as variables which can contribute to resistance.

Zaltman and Duncan (1 77) as well as Zaltman, Florio and Sikorski (1977) identify perception, insecurity, homeostasis, conformity, and commitment as barriers to change. Perception causes resistance in the sense that a person may not perceive that there is a problem or may not agree with the change agent's view of its nature, causes or solutions. There may be lack of clarity about the innovation itself or about the behaviors that the innovation requires. They also argue that there is an established association between price and quality, so that when assistance is provided free of charge the innovation may be perceived as lacking quality. Insecurity results in uncertainty and anxiety about one's ability to perform, the expectations of superiors, evaluation procedures, and so on, which may cause teachers to withdraw from the problem or to transfer it to others. Homeostasis means that people seek a level of stimulation that is comfortable and then try to maintain that level. When innovations involve a higher level of stimulation, then there may be a tendency to avoid or resist the change. In terms of conformity and commitment, people have made significant financial and social psychological investments in existing programs and therefore it is difficult for them to let go of the status quo.

However, Zaltman and Duncan (1977) remind us that personality variables and their relationship to resistance may be specific to the innovation and not indicative of a person's response to all innovations. Therefore personality traits do not dictate the response of any individual in any given situation.

Innovation Attributes

Several innovation attributes may play a part in resistance at various stages in the innovation process. The *communicability* (Zaltman, et al., 1977) of an innovation - the ease with which its purpose and requirements can be communicated to potential

users- can affect the decision to adopt. If the basic idea of an innovation is difficult to convey then the level of adoption is likely to be low . The more *complex* (Zaltman, et al., 1977; Beuke & Farrar, 1979; Rogers, 1983) or *radical* (Zaltman, et al., 1977) an innovation the greater the likelihood that it will be rejected. Innovations that are *demonstrable* are more readily accepted (Zaltman, et al., 1977; Beuke & Farrar, 1979). Also, the *trialability* of the innovation may play a role in its acceptance or rejection (Rogers, 1983). Changes that are *nonreversible* (Zaltman, et al., 1977) or that are not *divisible* (Zaltman, et al., 1977; Evans, 1967) - capable of being tried on a small scale - are more likely to encounter resistance. In addition, factors such as "risk and uncertainty, the scientific status of the advocated change, susceptibility of the innovation to modification, the efficiency of the change, and the estimated influence of the adoption on subsequent opportunities for change (gateway capacity)" (p. 43) are important determinants of resistance.

Several researchers point to the ability of the innovation to provide an advantage, such as improved student achievement, as a major factor that determines resistance to change. Zaltman, et al. (1977), as well as Rogers (1983) call this the *perceived relative advantage* of the innovation, whereas Levine (1980) refers to it as *profitability*. In any case, if the innovation has no apparent advantage for a potential user, then it is likely to be rejected.

Compatibility is another attribute that is deemed important by many researchers (Zaltman, et al.,1977; Levine, 1980; Dalin, 1978; Gross, et al., 1971; Beuke & Farrar, 1979; Rogers, 1983; Evans, 1967; Huberman & Miles, 1984). Innovations which are not compatible with either the individual's beliefs and past experiences, or with the norms and values of the organization are not likely to be accepted.

The Type of Innovation Decision

According to Zaltman, et al. (1977), Evans (1967), Fullan (1982), and Watson (1969), the *source* of an innovation plays a role in resistance. An innovation that is developed by a prestigious institution may gain the support of adopters. On the other hand, if innovations originate from outside of the system or group that is expected to implement the change, the innovation may be rejected. The degree of insidedness or outsidedness of the change agent, according to Arends and Arends (1977), must be carefully balanced. "Being too inside or too outside can limit one's effectiveness" (p. 43).

Rogers (1983) identifies three types of innovation decisions: (1) optional innovation decisions are made by individuals; (2) collective innovation decisions are made by consensus of a group which is considering implementing an innovation; and (3) authority innovation decisions are made by those who possess power, status, or technical expertise within an organization or group. The type or source of innovation decision may have a bearing upon the degree of resistance with which the innovation is met. Authority decisions are generally made more quickly than either collective or optional decisions, however they are more likely to be "circumvented during their implementation" (p. 30). This may indicate that the source of an innovation decision has a bearing on resistance to the innovation.

Also, the larger the group that makes the decision to adopt an innovation, the more appropriate the change will appear to nongroup members (Zaltman, et al, 1977), however, the more resistance that will be encountered during the process of developing a consensus to adopt the innovation (Levine, 1980; Rogers, 1983). Thus

collective decisions may meet a high level of resistance and may take longer to implement, but commitment to the innovation is likely to be strong. Once innovations become routinized they are very difficult to remove (Levine, 1980).

Problems During the Implementation Phase

Although various models of the change process have been suggested, Fullan (1982) identifies three broad phases - initiation or adoption; implementation; and continuation or institutionalization. As Gross, et al. (1971) point out, barriers may be encountered in the efforts by adopters to carry out innovations. What often happens during the change process is that innovations are adopted but problems are encountered during implementation that result in the failure to implement or in the discontinuance of the innovation. Resistance may not be willful, then, but the result of encountering obstacles too many or too difficult to overcome. To be successful, innovations must "combine good ideas with good implementation support systems" (Fullan, 1982, p. 103).

Berman and McLaughlin (1978) indicate several implementation strategies that tend to have negative results: (1) the use of outside consultants; (2) the use of packaged management approaches; (3) one-shot, preimplementation training; (4) pay for training; (5) formal evaluation of users; (6) projects that are too comprehensive (pp. 26 - 30). Other barriers that users may encounter include lack of time for planning and implementation (Dalin, 1978, Eisner, 1990); lack of knowledge about the innovation and the skills needed to carry out implementation; objectives that are multiple, conflicting, and that lack specificity; lack of adequate resources; and system implications, where a change in one part of the organization requires changes in other parts (Dalin, 1978). The organization may also become overloaded with too many undertakings and members of the organization may suffer from fatigue (Ely, 1976). These conditions would also hinder change.

Huberman and Miles (1984) have found that poor preparation, and lack of administrator commitment and support for the project resulted in the innovation being discarded or people opting out of the project. A certain level of administrative pressure was necessary, they discovered, to maintain momentum in the change process and where administrative pressure was low, then there tended to be a low level of use of the innovation. They also report that teacher-administrator conflict, noncommitment on the part of the user, and lack of skills needed to implement the change, acted as barriers to use. Oftentimes the new program did not fit existing conditions within the classroom and this led to frustration on the part of the user, who might then discontinue use.

Corbett, et al. (1984) focus on three features of the change process which have a significant bearing upon the outcome of the innovation. First is the use of external field agents. It has already been pointed out in previous discussion that resistance may result from efforts of outsiders to implement change in a system. According to Corbett and his associates, it is critical for the field agent to tailor implementation strategies to local conditions: "Essentially, field agents had to be flexible about what they considered appropriate activities at a site. The ability to adapt on the spot and to fill leadership gaps proved propitious for keeping projects moving and alive." (p. 9). Carroll (1985) recommends the use of a change agent team consisting of both "insiders" and "outsiders" to help solve the problem of objectivity versus knowledge of the local situation.

The second feature on which Corbett, et al. (1984) concentrate is that of sequential, or systematic, planning. This type of problem-solving planning involves identification of the problem, collection of data, the search for alternative solutions, and the selection of a solution. Corbett and his associates found that

> schools had trouble coordinating release time for teachers and buffering themselves against unanticipated demands and periodic changes in priorities.... Moreover, teachers typically based their classroom decisions on what their common sense knowledge told them. The availability of systematically collected data did not automatically change their style of decision making. (p. 10).

The final feature of the implementation strategy that Corbett, et al. (1984) evaluated was the encouragement of staff participation in implementation planning. Many studies indicate that this feature is important to promote ownership of the innovation and a strong commitment to its implementation, which would culminate in successful implementation (Fullan, 1972; Berman & McLaughlin, 1975). However, Corbett and his associates found that "when teachers felt their students suffered under the tutelage of substitutes or when teachers had to forego too many planning periods, participation became a disincentive to change rather than an incentive. Thus, field agents found it necessary to occasionally reduce participation in order to maintain staff commitment to a project" (p. 11).

It seems clear that there are no formulas for successful implementation of innovations within schools or school systems. What is necessary is for the field agent to understand what local conditions exist and to choose and adapt strategies to suit the local situation. Thus, strategies that might work in one school would not necessarily work in another school. This phenomenon is due to the fact that each school acts not only as a group of individuals working to achieve the education of their students, but as a unique social and organizational system with its own specific agendas and means for achieving them.

Schools as Organizational or Social Systems

Schools act as social systems with their own unique set of beliefs, values, and norms that shape the behavior of its members. The school also consists of subsystems or social groups that shape the pattern of interaction among the participants. Researchers who were dissatisfied with the conclusion that individual or psychological factors were to blame for resistance to innovation turned their attention to the impact of the social or organizational structure of the school on individual and group behavior. Goodlad (1975) made a convincing argument that the school, rather than the individual teacher, was the unit of change in education, declaring that

> schools are social systems, albeit sick and malfunctioning or alive and well and enjoying their existence, in which people and things interact, ways of regularizing these interaction are formed, roles are determined and played out, activities arise and are sanctioned or snuffed out, personal and group behaviors are shaped and rewarded and, in the process, strengthened or weakened (p. 59).

The importance of the social system is underscored by Rogers (1983) who argues that "the organizational structure that gives stability and continuity to an organization,

may be a resistant force to implementation of an innovation" (p. 174). Jwaideh emphasizes this when she suggests that

> the nature of the social system sometimes has a greater effect on an individual member's behavior than does his own person characteristics.... A system's structure - including its norms, social status and hierarachies (sic) - can exert a powerful influence on the individual member. An organization's "climate", especially the degree to which it is characterized by openness and trust, can also impede or facilitate the rate at which new ideas are diffused and adopted (p. 4).

The social or organizational structure is necessary to provide form and purpose to the collective efforts of many individuals within schools. At the same time it can represent a formidable adversary to innovation within schools.

The social or organizational structure can be seen as consisting of three parts: (1) the social structure, consisting of both formal and informal hierarchies and communication patterns; (2) the school culture which represents the beliefs, values, and norms that represent the participants' collective vision of *what ought to be* within the school; and (3) the school climate, or the conditions and characteristics which describe *the way things are* in the school. Communication patterns have received the greatest degree of attention among diffusion researchers.

Communications Networks

Most of the research dealing with diffusion within organizations has concentrated on the communications network within the organization. House (1976) argued that "who knows whom and who talks to whom are powerful indicators of whether , where, and when an innovation will be accepted" and that "one way of studying innovation is to trace the flow of personal contact" (p. 337). He went further, suggesting that "one way to control innovation is to control the flow of personal contact" (p. 337).

House also strongly contends that the successful implementation of an innovation is dependent upon whether it has an "internal advocacy group". He describes this group as being small and usually led by one person who initiates, organizes, and directs the activities of the group. This group protects and propagates the innovation (p. 338). Since this advocacy group must compete with others in the school for resources to implement the innovation, it often comes into conflict with other interest groups. According to House, this usually results in the formation of a counter group that resists the innovation, concentrating on the bad aspects of the innovation. The implication, one assumes, is that the innovation succeeds or fails based on the relative strengths of the advocacy and resistance groups. Implementation becomes a political battle.

Rogers (1983) has attached a great deal of importance to the interpersonal communications networks within the school, arguing that the "diffusion effect is the cumulatively increasing degree of influence upon an individual to adopt or reject an innovation, resulting from the activation of peer networks about an innovation in a social system" (p. 240). The rate of adoption, according to Rogers, depends upon the degree of "interconnectedness" of individuals within the organization, which means the degree to which people in a social system are linked by interpersonal networks. Whether innovations are adopted or implemented is influenced by the "information

exchange potential" of the communication network within the organization, and this potential is related to their degree of (1) homophily and (2) communication proximity.

Homophily is defined as "the degree to which pairs of individuals who interact are similar in certain attributes, such as beliefs, education, social status, and the like" (p. 274). More interaction, and thus more transfer of information and ideas, occurs between individuals who are alike, or homophilous. However, a high degree of homophily may act as a barrier to innovation diffusion since new ideas will be spread only within the confines of the individuals who interact. In a highly homophilous organization the change agent must work with different sets of opinion leaders throughout the social structure in order to ensure widespread diffusion of ideas. If the organization is highly heterophilous, then the change agent can concentrate his/her efforts on only a few opinion leaders near the top of the social hierarchy and permit them to trickle-down through the social structure.

Communication proximity refers to "the degree to which two linked individuals in a network have person communication networks that overlap" (Rogers, 1983, p. 295). Interlocking personal networks, usually homophilous in nature, consist of persons who interact with each other, whereas radial personal networks, usually heterophilous in nature, consist of individuals who do not interact with one another. Most organizations consist of a series of interlocking, homophilous networks (or what are more commonly known as cliques), that may be linked to one or more other networks or cliques through certain individuals who may have low proximity connections with persons in those other networks or cliques. Thus it is extremely important for the change agent to learn the communication networks within an organization, to target their change efforts toward the opinion leaders within each network, and count upon the bridges between the networks to diffuse information and ideas throughout the organization. This would, according to Rogers, lead to a high rate of adoption and implementation of an innovation. However, the more interpersonal channels that must be used to disseminate knowledge of the innovation, the longer it will take for the innovation to diffuse.

This use of the communications networks within schools is endorsed by Corbett, et al. (1984) who refer to the interpersonal connections as "linkages". They argue that "new practices have the best chance of lasting in schools where such linkages (close bonds among teachers and between teachers and administrators; close bonds between formal curricular and classroom practices) are present" (pp. 131 - 132). In their view, the diffusion strategy to be used by the change agent depends on whether the linkages within the school tend to be predominantly horizontal (non-hierarchical), or vertical (hierarchical). If linkages are horizontal, they suggest that diffusion efforts be concentrated within subunits of the organization; however, if linkages are vertical then more attention should be paid to altering the policies and procedures that govern instructional behavior. If few linkages exist within the organization, Corbett and his associates recommend the establishment of temporary linkages, through the use of planning groups, which may be extended past the planning stage into the implementation phase.

It is not difficult to understand the wisdom of taking advantage of the existing interaction patterns within schools to aid in the diffusion of innovations. However, the strategy has several weaknesses. First, it is likely that many schools could not be characterized as consisting of predominantly homophilous (horizontal) interactions, or predominantly heterophilous (vertical) interactions, but are probably a complex combination of the two. In this case, information diffusion becomes much more

complicated since the endorsement of innovations by certain *individuals* within the hierarchy might alienate specific subgroups within the school. On the other hand, adoption by certain *subgroups* may alienate other subgroups or key individuals within the school. Secondly, it is assumed that once the interaction pattern is learned, then it can be used to facilitate future innovations. However, many studies have shown that adoption and implementation of new ideas is innovation specific. A school that adopts one innovation may not necessarily adopt another. Finally, many researchers have concluded that schools are "loosely coupled" organizations (Weick, 1976) and that staff relationships tend to be characterized by "temporariness and the forging of impermanent alliances. Instead of interdependence, there are loose connections and an absence of linkages" (Miller, p. 7). If this is the case, then interaction patterns may only have a limited and temporary influence upon innovation diffusion.

The Faculty Culture

In frustration that attempts at school reform during the 1980's have failed to make significant or lasting impacts upon schools, many researchers have turned their attention to the influence of school culture and climate upon diffusion and resistance to innovation. Some researchers do not make a distinction between culture and climate, and it is not important to do so here. Therefore, the discussion will incorporate and combine both features of schools as organizations. School culture/climate is defined as the unique characteristics of the school, including those beliefs, values, and norms that are collectively developed over time through the interaction of members of the school, and to which new participants are socialized when they enter the organization.

During the 1970's a few diffusion researchers, such as Goodlad (1975), Berman and McLaughlin (1975) and Havelock (1973) noted the importance of culture, and more recently considerable attention has been devoted to the cultural aspect of the organization and its influence upon innovations. The importance of culture is underscored by Alfonso (1986) when he describes culture as "the unseen supervisor" that keeps schools working toward their goals, determines standards and values, and specifies rewards and sanctions for behavior. Rossman, Corbett, and Firestone (1988) claim that "culture defines change". They view the fact that schools respond differently to innovations that are adopted by other schools, as evidence that school cultures are idiosyncratic and highly influential in the change process.

Goodlad (1975) stressed that

> the regularities of the school sustain certain practices, through expectations, approval, and reward. Teachers, as individuals, usually are not able to run successfully against these regularities or to create the school wide structures and processes necessary to sustain new practices. This suggests the need to focus on the entire culture of the school, not simply on instruction... (p. 113).

He further argued that

> the school, in turn, shapes toward the already established regularities of its character whatever intrudes into it - modifying, distorting, or accomodating according to the degree of compatibility between the system's view of the intruder and both the system's view of itself and its functioning character.

> Nothing of any importance or potential significance enters a school to become a permanent part of it and remains there in its original form (p. 59).

Culture, then can present a very strong resistance to change and may be what is responsible for distortions and modifications to innovations that have long frustrated change agents. Such modifications are often viewed as impurities rather than as the result o natural change processes.

McLaughlin and Berman (1975) concluded that the innovation and the school culture interact with one another, causing changes in one or the other or both: "the implementation process consists of an interplay between the innovative plan and the institutional setting in which the plan may adapt to the setting or the setting to the plan. Or both may occur simultaneously" (p. 3). They call this process "mutual adaptation" and point out that although it does not result in full implementation of the innovation as it originally looked, it does result in "significant and enduring changes in teacher and organizational practices" (p. 6). The factors that they view as contributing to mutual adaptation are: (1) planning that is adaptive; (2) staff training that is keyed to the local setting; (3) the local development of materials; (4) and the establishment of a critical mass (significant number) of project staff to build support and morale in light of the indifference or negativism of non-participants.

This idea has reappeared, in part, in the "re-invention" theme of Rogers (1983). Rogers argues that re-invention, or the shaping of an innovation by the institution, although viewed negatively by researchers and program developers, is not necessarily bad. According to him, re-invention results in innovations that are more compatible with the school's circumstances and that less often result in discontinuance. Rogers does not contend, however, as McLaughlin and Berman do, that the innovation also interacts with and reshapes the culture of the school.

In a later report, Berman and McLaughlin (1979) suggest that the school culture can be molded to suit the purposes of the intended change. This is significant because it indicates that they now view mutual adaptation as problematic for change agents, rather than as a process to be accepted or even encouraged. The role of culture shaping should be assumed by the school's principal, as suggested by Berman and McLaughlin. They recommend that the principal first reflect upon the values and beliefs that they wish to foster within the school. Then, through the use of symbolism - stories, rituals, and icons that represent those values and beliefs, and through the modeling of behaviors that reflect those values and beliefs, the principal can begin to disseminate them throughout the school staff. They seem to have forgotten their earlier contention that the culture simultaneously modifies the innovation. If this is so, then attempts to reshape the school's culture will in turn become modified and the result may be other than what was originally intended by the principal. Also, the principal is him/herself a part of the school's culture, who has been and will be acted upon by the culture of the school. It may be that the principal ends up being the unit which adapts moreso than the culture.

Although much of his research has been carried out within the corporate sector, Deal (1985) believes that what he has learned about diffusion within corporations can be applied to educational settings. He feels that the understanding of symbols and cultures within schools is central to making the school more effective and perceives that an effective school is characterized by a culture that "encourages productivity, high morale, confidence, and commitment". The school, in his view, is divided into many subcultures, made up of students, teachers, administrators, and community interest groups. In order for a school to perform effectively, the shared

values of these subcultures must keep them pulling the the same direction. In other words, subcultures must agree on some general goals for the entire school. Therefore, it may be necessary to reshape the school's culture in order to arrive at a common understanding and purpose among subcultures.

Like Berman and McLaughlin in 1979, Deal encourages principals to shape the culture of their schools. He suggests documenting the school's history to find preferred values that are rooted in the past. He then recommends the celebration of heros and heroines who represent the preferred values of the new culture; promoting rituals or habits that support preferred values; using ceremonies such as pep rallies, assemblies, graduation, parent nights, and teacher awards nights to foster the acceptance of preferred values. Deal stresses the importance of stories that cultivate the values, assumption, and behaviors that are desirable and encourages the rewarding of storytellers and gossips within the culture, since they are helpful in disseminating these new values and norms.

Such an approach is condemned by Rossman, Corbett, and Firestone (1988). Although these strategies focus on aspects of the school culture (values, symbols, and culture), Rossman and her colleagues argue that they are not really aimed at cultural change. Instead they are devoted to achieving behavioral change which is not always internalized by teachers, and therefore may result in only superficial change, rather than real and lasting change. Successful change, they say, "must accommodate that core (normative core) or engage in the difficult enterprise of reinterpreting, redefining, and reshaping it".

There has developed, then, a debate about the role that culture should play in diffusion of innovations. Those who regard culture as one of the forces that acts to resist change seem to support the idea of making an effort to modify the school's culture to make it more compatible with the innovation. The purpose is to achieve the adoption and implementation of innovations as they were originally designed, without modification. Others feel that such purity is unrealistic and perhaps even undesirable. The innovation, they contend, must be permitted to adapt to the unique characteristics and needs of the school. Idiosyncrasies amongst schools must be tolerated and even encouraged. At the same time, the interactive process will result in changes in the school culture that make it more compatible with the innovation. It is an interesting debate and one worthy of far more research, since very little has yet been conducted.

Conclusion

This review by no means represents an exhaustive study of the literature related to innovation resistance. In fact, some influential factors have been neglected - most significantly, the impact of external forces such as the broader culture and the roles played by government education departments or by educational lawmakers. The intent, here, is to reflect themes that have emerged within the body of research and to show how they range from rather simplistic perceptions about resistance toward a more sophisticated interpretation of the issue.

Innovation diffusion and resistance to innovation are highly complex processes, far more than research to this date has indicated. It is no longer acceptable to blame resistance on any one of the forces that influence the innovation process - individual personalities and psychological factors, the attributes of specific innovations, the type of innovation decisions, problems associated with

implementation, the structure of organizations as social systems, or the culture of the organization. Several, or even all of these factors may play a part in stimulating the resistance to change in any one case.

The word "resistance" implies behavior that is willful. However, much so-called resistance to change is not premeditated or engaged in consciously. Resistance may be the result of sociopsychological forces over which no one person or group can exercise significant control. Perhaps "resistance" should no longer be part of the vocabulary of diffusion research. Terms such as "interactive" or "interpretive" pressures might more aptly describe the complexity of the forces that operate on an innovation and result either in the acceptance, rejection, or modification of the innovation.

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